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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,311	03/30/2004	Bertram Schedler	SB-528	5154

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EXAMINER
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ZIMMERMAN, JOHN J

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 03/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/814,311	<b>Applicant(s)</b> SCHEDLER ET AL.	
	<b>Examiner</b> John J. Zimmerman	<b>Art Unit</b> 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 11-26 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,5 and 8-10 is/are allowed.
- 6) ☒ Claim(s) 2-4,6 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                                                         |                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                             | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20040330, 20040426</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## FIRST OFFICE ACTION

### *Election/Restrictions*

1. Applicant elected Group I, claims 1-10, in the paper titled "RESPONSE" received February 10, 2006. Applicant requested rejoinder of the method claims upon allowance of the elected product claims. Pursuant to the procedures set forth in MPEP § 821.04(B), upon allowance of the product claims, claims directed to the process of making the product will be rejoined if they are commensurate with the allowed product claims. To ensure rejoinder, applicant should amend the process claims to include all the limitations of the product claims (e.g. by amending the process claims to refer to the "highly heat-resistant composite component of claim 1" *or* by incorporating all the limitations of claim 1 into the independent process claims).

### *Priority*

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

3. The "INFORMATION DISCLOSURE STATEMENT" received March 30, 2004 and the "INFORMATION DISCLOSURE STATEMENT" received April 26, 2004 have been considered. Initialed forms PTO-1449 are enclosed with this First Office Action.

***Specification***

4. The disclosure is objected to because of the following informalities: U.S. Patent 5,126,106 listed in the specification (e.g. see page 5, line 12, line 22; page 6, line 10) does not appear to correspond with applicant's description of the patent. It appears that U.S. Patent 5,126,102 may be the correct patent number. Clarification and/or correction is requested.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 2-4 and 6-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. The use of the same word "component" to describe both the overall composite (e.g. claim 2, line 1) and also to describe a part of the composite (e.g. claim 2, line 2) is confusing.

8. In claims 3 and 4, it is unclear whether the phrase "said component" (e.g. claim 3, line 2; claim 4, line 2) refers to the "component" of claim 2, line 1 or the "component" of claim 2, line 2.

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9. In claim 6, the refractory-metal-copper composite consists of tungsten and copper with a copper content listed as "10 to 40 vol.%" although in claim 1, it appears that the refractory-metal-copper composite has the refractory metal (x) in a content of " $10 \text{ vol.}\% < x < 40 \text{ vol.}\%$ ".

10. In claim 7, the refractory metal-copper composite consists of molybdenum and copper, although in claim 1, the refractory-metal-copper composite is described as macroscopically uniform tungsten and copper.

#### *Allowable Subject Matter*

11. Claims 1, 5 and 8-10 are allowed. Claims 2-4 and 6-7 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112, 2nd paragraph, set forth in this First Office Action and to include all of the limitations of the base claim and any intervening claims. Although the prior art is replete with various methods of reducing stresses while joining refractory metal and copper composites (e.g. see Slattery, Takahashi, etc. . .), the prior art does not disclose or make obvious the limiting of the copper or copper alloy of the heat-dissipating area to a mean grain size of  $> 100 \mu\text{m}$  when used with a tungsten or tungsten alloy facing and a refractory-metal-copper composite of the type claimed.


#### *Conclusion*

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional prior art of record serves to further establish the level of ordinary skill in the art at the time the invention was made.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Zimmerman whose telephone number is (571) 272-1547. The examiner can normally be reached on 8:30am-5:00pm, M-F. Supervisor Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John J. Zimmerman  
Primary Examiner  
Art Unit 1775

jjz  
March 17, 2006